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Perkins, Brandon

From: Lynch, Kira
Sent: Thursday, January 24, 2013 12:39 PM
To: Perkins, Brandon; Bailey, Marcia
Subject: Fw: Document Review

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Cc: Kira Lynch/R10/USEPA/US@EPA, "Cardona, Tamara (DEC)" <tamara.cardona@alaska.gov>
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Subject: Document Review

Hello John,

I just talked to Kira and raised the question of file sharing. I have a series of documents that I would like you to review and comment on, and provide recommendations for further study or action (if necessary). I can email some of these documents, but others may be too large. Do you have a file sharing protocol, or should I simply burn a CD and mail to you?

These documents include:

1) A study Plan I put together to identify specific degradation questions and how they will be answered
2) A power point file that outlines potential degradation pathways found in the literature and possible intermediate products that may be formed
3) Bench-scale testing of sulfolane degradation conducted by Barr Engineering
4) On-site pilot air-sparge studies conducted by Barr Engineering
5) A summary of potential aerobic degradation pathways (abiotic and biological) prepared by Dr. Lisa Gieg (Uni. of Calgary)
6) Results of CSIA and a PLFA-SIP experiment on-site at the Refinery presented by Arcadis (these results have not been submitted to ADEC yet).

I recognize that your involvement is best kept focused on specific degradation-related questions; but there is some background information to be aware of.

The intent of the Study Plan was assimilate all degradation-related work into a "living" document that gets updated through time. ADEC also has a research contract with the University of Alaska, Fairbanks staff (Dr. Mary Beth Leigh and Dr. Dave Barnes) to understand sulfolane degradation potential and rates, and sulfolane fate and transport in discontinuous permafrost. Some of their findings (T-RFLP and culture studies) are included in the Study Plan.

The intent of the pathways PowerPoint was to summarize microbial degradation pathways of structurally similar compounds (e.g., dibenzothiophene, tetrahydrofuran, etc.), to inform of possible sulfolane degradation mechanisms that may be happening in-situ.

There may be portions of other documents that could serve to fill "data gaps" in understanding this site, but we can discuss those later.

Degradation-related issues have been discussed in some manner during periodic subgroup meetings – one of which will occur tomorrow (2 January). I'll forward that MSOutlook meeting invite along today – it has a GoTo Meeting and dial-in teleconference available.

The goal is to be able to answer how sulfolane is being degraded both on-site and off-site, determine if MNA is sufficiently protective and how best to evaluate MNA. A related goal would be understand how sulfolane is removed in Pont-of-Entry GAC water filtration systems in private residences (we suspect biodegradation). It is likely that MNA will be proposed as cleanup approach to groundwater off-site of the refinery, while an air-sparge curtain has recently been proposed as an on-site remedial action to stop off-site sulfolane migration.

Again, I apologize for the short notice on tomorrow's meeting, but notes and presentations can be made available, should you be unavailable. The next one may not occur until late February.

Please let me know if you want to discuss anything further (via telephone), and the best way to share documents.

Thank you!

Jim

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